

REMARKS

Claims 1-64 are pending. Claims 41-60 and 64 have been amended to improve their form, without narrowing their scope.

Initially, the Office Action did not include an initialed copy of the SB/08 form that was filed with the Information Disclosure Statement filed March 4, 2005. Moreover, the Office Action Summary did not check the boxes to acknowledge receipt of the certified copies of the priority documents in the International Stage of the application. It is requested that the initialed papers be returned with the next Office Action and the appropriate boxes be checked on the Office Action Summary.

Claims 41-60 were rejected under 35 U.S.C. § 101 as allegedly being directed to non-patentable subject matter. Those claims, as well as claim 64, have been amended and now recite a computer-readable storage medium for storing a program that runs a processor controlled node. The claims as amended are clearly directed to a statutory article of manufacture. Withdrawal of the rejection is respectfully requested.

Claims, 1, 2, 21, 41, 42 and 61-64 were rejected under 35 U.S.C. § 103(a) over U.S. Patent Publication No. 2008/205308 (Prehofer et al.) in view of U.S. Patent 5,594,490 (Dawson et al.). Claims 3, 23 and 43 were rejected under 35 U.S.C. § 103(a) over Prehofer et al. and Dawson et al. as applied to claim 1/21/41 above, and further in view of Sreejith et al. (US 2003/0202511). Claims 4, 5, 10-13, 20, 24, 25, 30-33, 44, 45, 50-53 and 60 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Prehofer et al., Dawson et al. and Sreejith et al. as applied to claim 3/23/43 above, and further in view of Herring (US 2005/0078559). Claims 8, 9, 28, 29, 48 and 49 were rejected under 35 U.S.C. § 103(a) over Prehofer et al., and Dawson et al., as applied to claim 1/21/41 above, and further in view of Herring. Claims 14, 15, 34, 35, 54 and 55 were rejected under 35 U.S.C. § 103(a) over Prehofer et al., Dawson et al., Herring view of Ogier et al. (US 2003/0179742). Claims 16, 36 and 56 were rejected under 35 U.S.C. § 103(a) over Prehofer et al., Dawson et al., Herring and Sreejith et al., as applied to claim 10/30/50 above, and further in view of Schuster et al. (US 6,512,761). Claims 17, 37 and 57 were rejected under 35 U.S.C. § 103(a) over

Prehofer et al., Dawson et al., Herring and Sreejith et al., as applied to claim 10/30/50 above, and further in view of Gorsuch (US 7,024,222). Claims 18, 19, 38, 39, 58 and 59 were rejected under 35 U.S.C. § 103(a) over Prehofer et al., Dawson et al., Herring and Sreejith et al., as applied to claim 10/30/50 above, and further in view of Poppe et al (US 2004/0151115).

Applicants traverse and submit that the independent claims are patentable over the cited references.

In the invention to which independent claim 1 is directed a transmitting node provides a first group flow having one flow or more based upon a first criterion relating to a sequencing and a second group flow having one flow or more based upon a second criterion relating to a retransmitting control. A first identifier is assigned to each flow belonging to the first group flow group, the first identifier being unique, and a second identifier is assigned to each flow belonging to the second group flow, the second identifier being unique. The transmitting node classifies the packets, which were input, into one flow or more belonging to the first group flow, based upon the first criterion, and also classifies them into one flow or more belonging to the second group flow, based upon the second criterion, affixes to the packets the first identifier, a first sequential number, the first sequential number being unique within flows specified by the first identifier, the second identifier, a second sequential number, the second sequential number being unique within flows specified by the second identifier, and transmit them.

The receiving node classifies all received packets based upon the second identifier, checks the packets having the second sequential number, which were not received, with each second group flow, and requests the transmitting node of retransmission thereof. The transmitting node retransmits the packets of the second group flow having the second sequential number requested by the receiving node, and the receiving node classifies all received packets based upon the first identifier, sequences the packets within each first group flow based upon the first sequential number, and performs a receiving process of the sequenced packets in the sequenced order.

The claimed structure advantageously can solve the problem of conventional systems in which the sequencing of transmitted and received packets made it impossible to detect the loss of a particular packet, as is described in the specification at paragraphs [0002] through [0013]. By virtue of the invention of independent claim 1, packets are classified into one flow or more belonging to a first group flow, based upon a first criterion, yet also classified into one flow or more belonging to a second group flow, based upon second criterion. Further, the transmitter affixes to the packets the first identifier, a first sequential number, said first sequential number being unique within flows specified by the first identifier, the second identifier, a second sequential number, the second sequential number being unique within flows specified by the second identifier. This allows a packet that is missing at the reception end, i.e., a lost packet, to be uniquely identified.

Prehofer is directed to solving a completely different problem in which, in ad hoc networks, it is difficult to determine the amount of information that has been downloaded by a terminal from the server that is broadcasting in the ad hoc network. This problem occurs because heretofore, according to the Prehofer, there had been no way to determine whether which, if any, of the terminals that may be in the vicinity of the ad hoc network, actually downloaded the content that was being broadcast. Prehofer solved this problem by setting up an acknowledgement detection unit that detects the receipt of acknowledgement information from the terminal nodes.

By requiring, and obtaining, such acknowledgement information, the content provider can be sure which node terminals took advantage of the content, and how much content was accessed, allowing the provider of the content to determine how much to bill the terminal node. Prehofer achieves this by setting up a virtual packet tunnel to ensure that the exchange of transmission packets and acknowledgement packets is undisturbed from any other packet transmission within the ad hoc network. Such a rigid connection is useful, according to Prehofer, for an accurate accounting (i.e., in terms of billing).

However, Prehofer does not teach or suggest the abovementioned sequencing of packets as recited in claim 1. Nor does Prehofer even relate to the same technical problem, as mentioned above. Dawson is cited essentially for showing TCP's provision of packets in a sequential order.

However, this does not remedy the abovementioned deficiency of Prehofer as a reference against claim 1. Thus, claim 1 is believed patentable over Prehofer and Dawson, taken alone or in combination. The other independent claims are believed patentable for substantially similar reasons.¹

The dependent claims are believed patentable for at least the same reasons as their respective base claims.

In view of the above amendments and remarks, applicants believe the pending application is in condition for allowance.

Dated: August 28, 2009

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¹ It is noted that at pages 17 and 18 of the Office Action a reference named "Fantaske" is cited in the rejection of claims 61 and 62. The Examiner is requested identify this reference in the next Office Action and list it on the PTO-892 form.